

**Notice of Allowability**

Application No.

09/940,517

Applicant(s)

HOSHINO ET AL.

Examiner

Art Unit

Christopher R. Magee

2653

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 10/17/2005.
2. ☒ The allowed claim(s) is/are 2,5,8,10-12,14 and 17.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/17/2005 has been entered.

### *Response to Amendment*

2. The reply filed 10/17/2005 was applied to the following effect: All relevant objections and rejections are withdrawn as being satisfied.

### *Reasons for Allowance*

3. Claims 2, 5, 8, 10-12, 14 and 17 are allowed.

The following is an examiner's statement of reasons for allowance:

This application is for a MAGNETORESISTIVE HEAD USING MULTILAYERED VARISTOR MATERIAL.

- **Claim 2** specifies magnetoresistive head, which requires:

*"wherein at least either of said upper and under gap layers is made of varistor material so that electrostatic breakdown of the magnetoresistive layer is prevented."*

Akio (JP 11-265503) does not teach or suggest either of the upper or under (i.e., lower) gap layers being made of varistor material.

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Sato (US 6,477,006 B1) discloses the use of SiC (i.e., silicon carbide, known as a varistor material) as a gap layer material (col. 8, lines 15-21; col. 9, lines 39-42).

Neither Akio nor Sato teach, suggest or show at least either of said upper and under gap layers is made of varistor material so that electrostatic breakdown of the magnetoresistive layer is prevented as claimed in the present invention.

Therefore, these features, in combination with other features of claims 2 are not anticipated by, nor made obvious over, the closest prior art of record Akio and/or Sato.

- **Claims 10-12** specify magnetoresistive head, which requires a varistor material:

*“formed in a multilayer wherein the thickness of a film made of  $Al_2O_3$ ,  $SiO_2$ ,  $Ta_2O_5$ ,  $Bi_2O_5$ ,  $MnO$ ,  $NiO$ ,  $CoO$ ,  $Fe-O$ ,  $TiO_2$ ,  $HfO_2$ ,  $ZrO_2$ , or  $Nb_2O_5$  or an oxide film whose main element is one of these substances is 5 nm or less.”*

Akio (JP- JP 11-265503) and/or Sato (US 6,477,006 B1) do not teach or suggest this feature as claimed in the present invention as indicated in the office action dated 06/09/2005.

Therefore, these features, in combination with other features of claims 10-12 are not anticipated by, nor made obvious over, the closest prior art of record Akio and/or Sato.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is indicated on PTO-892.

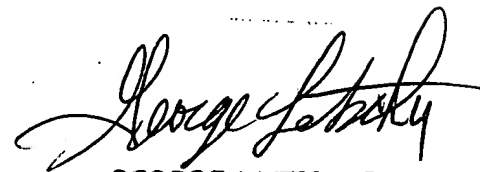
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Magee whose telephone number is (571) 272-7592. The examiner can normally be reached on M-F, 8: 00 am-5: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Christopher R. Magee  
Patent Examiner  
Art Unit 2653

October 27, 2005  
crm

  
GEORGE J. LETSCHER  
PRIMARY EXAMINER